

LCLUC Abstract

Soils, Water, People and Pixels: A Study of Nang Rong

<http://www.cpc.unc.edu/projects/nangrong/nangrong_home.html>

Ronald Rindfuss

This research combines Landsat, SPOT, and GIS data with detailed individual, household, and community longitudinal data to examine the effects of biophysical, geographic, and human dimensions on land use/ land cover (LULC) change. The study area is Nang Rong district, Buriram province, Northeast Thailand. The first subproject uses village level data collected from 310 villages in 1994, remotely sensed data from 1994, and measures of land suitability to examine the immediate and lagged impacts of human, biophysical, and geographic factors on LULC in 1995 and 1997 for the land surrounding these villages. The second subproject uses a subset of the 310 villages drawing on data available from 1984, 1988, and 1994 to look at effects of social processes on LULC in 1987, 1991, and 1997 respectively, controlling for land suitability and prior measures of LULC. The third subproject, again using all 310 village, investigates scale dependence among biophysical, geographic, and social variables, and assesses the range of spatial scales in which biophysical and geographic variables are related to social factors. The fourth subproject uses remotely sensed data and ground control information to see whether integrated Landsat and SPOT can distinguish between transplanted versus broadcast rice fields, an important distinction from the perspective of human dimensions. Finally, 1994 survey reports about the size and use of agricultural plots are used to cross-validate and clarify the interpretation of measures of LULC obtained from remotely sensed data.